

CLEAN VERSION OF AMENDED CLAIMS

5/24/20
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7. (once amended) The system of claim 25, wherein said pump flowpath includes a sight window oriented to enable visual contact with said drip chamber.

8. (once amended) The system of claim 25, wherein said outlet tube is configured to revert said drip stream exiting said flow restriction to a reverted continuous stream.

25. (twice amended) A medication delivery system comprising:

a) an infusion pump including,

a fluid storage chamber for storing fluid medication,

a displacement piston displaceably positionable to expand or contract said fluid storage chamber,

an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston, [and]

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a pump outlet for discharging a fluid from said infusion pump in response to displacement of said displacement piston,

a pump flowpath providing fluid communication between said fluid storage chamber and said pump outlet, wherein said pump flowpath has a flow restriction and a drip chamber with a drip chamber wall, an upper portion, and a lower portion, and wherein said flow restriction is sized to convert a continuous stream of a fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber, and

an outlet tube positioned beneath said flow restriction in said lower portion of said drip chamber and extending toward said upper portion, said outlet tube having a smaller cross section than said drip chamber to define a fluid accumulation space between said outlet tube and said drip chamber wall where at least some of said fluid exiting said flow restriction into said drip chamber accumulates; and

b) a bolus injector positioned downstream of said fluid storage chamber in fluid communication with said fluid storage chamber, said bolus injector including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an injector inlet into said bolus chamber, and

an injector outlet from said bolus chamber.

26. (once amended) A medication delivery system comprising:

a) an infusion pump including,

a fluid storage chamber for storing fluid medication,

a displacement piston displacably positionable to expand or contract said fluid storage chamber,

an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston, [and]

a pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston,

a pump flowpath providing fluid communication between said fluid storage chamber and said pump outlet, wherein said pump flowpath has a flow restriction and a drip chamber with a drip chamber wall, an upper portion, and a lower portion, and wherein said flow restriction is sized to convert a continuous stream of a fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber, and

an outlet tube positioned beneath said flow restriction in said lower portion of said drip chamber and extending toward said upper portion, said outlet tube having a smaller cross section than said drip chamber to define a fluid accumulation space between said outlet tube and said drip chamber wall where at least some of said fluid exiting said flow restriction into said drip chamber accumulates; and

b) a bolus injector positioned in series with said infusion pump including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an injector inlet into said bolus chamber and connected to said pump outlet, and

an injector outlet from said bolus chamber.

27. (once amended) A medication delivery system comprising:

a) an infusion pump including,

a fluid storage chamber,

a displacement piston displacably positionable to expand or contract said fluid storage chamber,

an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston,

a first pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston, [and]

a second pump outlet for discharging fluid from said infusion pump in response to displacement of said displacement piston,

a pump flowpath providing fluid communication between said fluid storage chamber and said first pump outlet, wherein said pump flowpath has a flow restriction and a drip chamber with a drip chamber wall, an upper portion, and a lower portion, and wherein said flow restriction is sized to convert a continuous stream of a fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber, and

an outlet tube positioned beneath said flow restriction in said lower portion of said drip chamber and extending toward said upper portion, said outlet tube having a smaller cross section than said drip chamber to define a fluid accumulation space between said outlet tube and said drip chamber wall where at least some of said fluid exiting said flow restriction into said drip chamber accumulates; and

b) a bolus injector in fluid communication with said fluid storage chamber including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an injector inlet into said bolus chamber and connected to said second pump outlet, and

an injector outlet from said bolus chamber.

28. (once amended) A medication delivery system comprising:

a) a first infusion pump including,

a first fluid storage chamber,

a first displacement piston displacably positionable to expand or

contract said first fluid storage chamber,

a first elastic member transitionable between a more stressed position and a less stressed position to displace said first displacement piston, and

a first pump outlet for discharging fluid from said first infusion pump in response to displacement of said first displacement piston;

b) a second infusion pump including,

a second fluid storage chamber,

a second displacement piston displaceably positionable to expand or contract said fluid storage chamber,

a second elastic member transitionable between a more stressed position and a less stressed position to displace said second displacement piston,

a second pump outlet for discharging fluid from said second infusion pump in response to displacement of said second displacement piston,

a pump flowpath providing fluid communication between said first fluid storage chamber and said first pump outlet, wherein said pump flowpath has a flow restriction and a drip chamber with a drip chamber wall, an upper portion, and a lower portion, and wherein said flow restriction is sized to convert a continuous stream of a fluid entering said flow restriction from said first fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber, and

an outlet tube positioned beneath said flow restriction in said lower portion of said drip chamber and extending toward said upper portion, said outlet tube having a smaller cross section than said drip chamber to define a fluid accumulation space between said outlet tube and said drip chamber wall where at least some of said fluid exiting said flow restriction into said drip chamber accumulates; and

c) a bolus injector positioned in series with said second infusion pump including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an injector inlet into said bolus chamber and connected to said second

pump outlet, and

an injector outlet from said bolus chamber.

29. (once amended) A medication delivery system comprising:

a) an infusion pump including,

a fluid storage chamber for storing fluid medication,

a displacement piston displaceably positionable to expand or contract said fluid storage chamber,

an elastic member transitionable between a more stressed position and a less stressed position to displace said displacement piston,

a pump outlet for discharging a fluid from said infusion pump in response to displacement of said displacement piston, and

a pump flowpath providing fluid communication between said fluid storage chamber and said pump outlet, said pump flowpath including a flow restriction, a drip chamber, a sight window, and an outlet tube, wherein said drip chamber has a drip chamber wall, an upper portion, and a lower portion, said flow restriction exiting into said drip chamber and said outlet tube positioned beneath said flow restriction in said drip chamber separated from said flow restriction by a drip gap, said sight window oriented to enable visual contact with said drip chamber, wherein said flow restriction is sized to convert a continuous stream of fluid entering said flow restriction from said fluid storage chamber to a drip stream exiting said flow restriction into said drip chamber and wherein said outlet tube extends toward said upper portion, said outlet tube having a smaller cross section than said drip chamber to define a fluid accumulation space between said outlet tube and said drip chamber wall where at least some of said fluid exiting said flow restriction into said drip chamber accumulates; and

b) a bolus injector positioned downstream of said fluid storage chamber in fluid communication with said fluid storage chamber, said bolus injector including,

a flexible bladder,

a bolus chamber enclosed by said flexible bladder,

an injector inlet into said bolus chamber, and

an injector outlet from said bolus chamber.